Grid Resiliency In PJM Planning

PJM Planning Committee
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NERC

Infrastructure resilience is the ability to reduce the magnitude and/or duration of disruptive events. The effectiveness of a resilient infrastructure or enterprise depends upon its ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event.

NERC Severe Impact Resilience Task Force

- Severe Impact Resilience: Considerations and Recommendations
- [http://www.nerc.com/docs/oc/sirtf/SIRTFFinal_May_9_2012-Board_Accepted.pdf](http://www.nerc.com/docs/oc/sirtf/SIRTFFinal_May_9_2012-Board_Accepted.pdf)
• **CIP-002-5 – BES Cyber Security**
  – To identify and categorize BES Cyber Systems and their associated BES Cyber Assets for the application of cyber security requirements commensurate with the adverse impact that loss, compromise, or misuse of those BES Cyber Systems could have on the reliable operation of the BES. Identification and categorization of BES Cyber Systems support appropriate protection against compromises that could lead to misoperation or instability in the BES.

• **CIP-014-2 – BES Physical Security**
  – To identify and protect Transmission stations and Transmission substations, and their associated primary control centers, that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or Cascading within an Interconnection.
Project Alternative Evaluation Considerations

Reliability & Performance
- Bright line performance
- Sensitivity Performance
- Margin & Longevity
- Public Policy
- Etc

Cost
- Cost Effectiveness
  - Cost estimate confidence
  - Cost containment
  - Core Proposal Cost
  - Additional proposal cost
  - Etc.

Feasibility & Risk
- Siting
- Timing
- Schedule
- Outages
- Etc.
Quantify Resiliency Metric

- CIP-014 Improvements
- Cascading Analysis
- Load Risk
- Critical Load Assessment
- Operational Performance
- Extreme Events
- Other Considerations
• Next Steps

• Provide feedback to RTEP@pjm.com